

What is claimed is:

1. A button binder for binding papers each having at least a punched hole along one edge thereof, and a button connector for binding two piece materials, wherein said button binder and button connector comprise at least a button which comprises:

5 a button post comprising a post and a locking head provided at a top end of said post;

a button cap having a cap hole for receiving said locking head of said post of said button post therein; and

means for securely fastening said locking head in said cap hole at a designated  
10 direction for holding said two piece materials or said papers between said button post and said button cap in such a manner that said button cap is tightly engaged with said locking head of said post of said button post at a locking side to prevent said button cap from pulling apart from said locking head of said button post while a pulling force applied to said two piece materials or papers tends to pull said button cap from said locking  
15 head of said button post, and that said button cap is capable of detaching from said locking head of said button cap when said cap is pulled to disengage from said locking head of said button cap at a side other than said locking side.

2. The button binder and button connector, as recited in claim 1, wherein said means comprises a pull piece which is extended from said button cap being  
20 arranged to be handled and pulled said button cap to disengage from said locking head of said button cap at a side other than said locking side so as to detach said button cap from said button post.

3. The button binder and button connector, as recited in claim 1, wherein said means further comprises an enlarged head at said top end of said post of said  
25 button post to function as said locking head, wherein said enlarged head has a smooth curve portion at a first side of said post and extends to form a sharp shoulder at an opposite second side as said locking side, wherein said means further includes a mouth formed at a downward edge of said cap hole of said button cap wherein a first side of

said mouth has a smooth curve edge while an opposite side of said first side of said mouth has a sharp shoulder edge, wherein when said post engages in said cap hole of said button cap, said smooth curve edge and said smooth curve portion fit with each other to form a smooth curve site and said sharp shoulder and said sharp shoulder edge  
5 latch with each other to form a tooth pawl site, therefore said button is able to be opened at said first side through said smooth curve site and is unable to be opened at said locking side as well as said third and fourth sides.

4. The button binder and button connector, as recited in claim 2, wherein said means further comprises an enlarged head at said top end of said post of said  
10 button post to function as said locking head, wherein said enlarged head has a smooth curve portion at a first side of said post and extends to form a sharp shoulder at an opposite second side as said locking side, wherein said means further includes a mouth formed at a downward edge of said cap hole of said button cap wherein a first side of said mouth has a smooth curve edge while an opposite side of said first side of said  
15 mouth has a sharp shoulder edge, wherein when said post engages in said cap hole of said button cap, said smooth curve edge and said smooth curve portion fit with each other to form a smooth curve site and said sharp shoulder and said sharp shoulder edge latch with each other to form a tooth pawl site, therefore said button is able to be opened at said first side through said smooth curve site and is unable to be opened at said  
20 locking side as well as said third and fourth sides.

5. The button binder and button connector, as recited in claim 1, wherein said means includes a post tube which is an upper portion of said post and made as a tubular body, a pair of first and second legs being provided at a top portion of said post tube as said locking head, wherein a top end of said first leg has a tooth pawl and a top  
25 end of said second leg has a smooth curve edge, wherein said means further includes a mouth formed at a downward edge of said cap hole, wherein one side of said mouth has a smooth curve portion while an opposite side has a sharp tooth latch, wherein when said locking head of said post engages in said cap hole of said button cap, said smooth curve portion and said smooth curved leg fit with each other to form a smooth curve site  
30 and said tooth pawl and said sharp tooth latch mesh with each other to form a tooth pawl site, wherein said button is able to be opened from said smooth curve site, wherein a

split notch formed between said first and second legs enables said first and second legs easy to engage into said button cap.

6. The button binder and button connector, as recited in claim 2, wherein said means includes a post tube which is an upper portion of said post and made as a tubular body, a pair of first and second legs being provided at a top portion of said post tube as said locking head, wherein a top end of said first leg has a tooth pawl and a top end of said second leg has a smooth curve edge, wherein said means further includes a mouth formed at a downward edge of said cap hole, wherein one side of said mouth has a smooth curve portion while an opposite side has a sharp tooth latch, wherein when said locking head of said post engages in said cap hole of said button cap, said smooth curve portion and said smooth curved leg fit with each other to form a smooth curve site and said tooth pawl and said sharp tooth latch mesh with each other to form a tooth pawl site, wherein said button is able to be opened from said smooth curve site, wherein a split notch formed between said first and second legs enables said first and second legs easy to engage into said button cap.

7. The button binder and button connector, as recited in claim 5, wherein said means further comprises a locker post downwardly and coaxially extended from a cap base of said button cap into said cap hole, wherein when said button is closed, said locker post is extended and inserted into said split notch to hold said first leg in a locking position by eliminating a space between said locker post and said first leg to prevent said button being opened from said tooth pawl site, while leaving sufficient space between said locker post and said second leg to enable said button being opened from said smooth curve site.

8. The button binder and button connector, as recited in claim 6, wherein said means further comprises a locker post downwardly and coaxially extended from a cap base of said button cap into said cap hole, wherein when said button is closed, said locker post is extended and inserted into said split notch to hold said first leg in a locking position by eliminating a space between said locker post and said first leg to prevent said button being opened from said tooth pawl site, while leaving sufficient space between said locker post and said second leg to enable said button being opened from said smooth curve site.

9. The button binder and button connector, as recited in claim 5, wherein said cap hole is a through hole and said second leg is longer than said first leg and extended out of said cap hole, wherein said tooth pawl site is able to be unlocked by pushing an end of said second leg toward said first leg to disengage said tooth pawl with  
5 said sharp tooth latch so as to open said button.

10. The button binder and button connector, as recited in claim 6, wherein said cap hole is a through hole and said second leg is longer than said first leg and extended out of said cap hole, wherein said tooth pawl site is able to be unlocked by pushing an end of said second leg toward said first leg to disengage said tooth pawl with  
10 said sharp tooth latch so as to open said button.

11. The button binder and button connector, as recited in claim 9, wherein a top end of said second leg forms a handle which is inclined extended out of said cap hole of said button cap for opening said button by pushing down said handle.

12. The button binder and connector, as recited in claim 10, wherein a top  
15 end of said second leg forms a handle which is inclinedly extended out of said cap hole of said button cap for opening said button by pushing down said handle.

13. The button binder and connector, as recited in claim 1, wherein said button cap comprises a cap base which has a projection extended downwardly at a center of said cap base, wherein said projection has an enlarged portion at one end  
20 thereof and said button cap centrally has a belly projection facing downwards with an axial hole which has a middle segment greater in diameter than an upper segment and a lower segment thereof, wherein said means comprises a U-shaped spring which is holed in said middle segment and said projection of said cap base is pressed into said axial hole of said button cap, wherein said means further comprises an enlarged head  
25 provided at an upper end of said post of said button post as said locking head, wherein said enlarged head has a diameter larger than said button post and said button post is capable of piercing in a space where said spring is provided, wherein a latch notch is formed adjacent to a first side of said enlarged head and a smooth curve edge formed at an opposite second side of said latch notch, wherein when said button is closed that is  
30 said button cap is connected with said button post while said enlarged head is engaged

with said button cap, one leg of said spring is arranged to mesh in said latch notch to form a locking site while another leg of said spring and said smooth curve edge of said enlarged head to form a smooth curve site, wherein said leg of said spring is retained securely in said latch notch so that said button is unable be opened from said locking  
5 site of said latch notch and said spring while said button is able to be opened from said smooth curve site.

14. The button connector, as recited in claim 2, wherein said button cap comprises a cap base which has a projection extended downwardly at a center of said cap base, wherein said projection has an enlarged portion at one end thereof and said  
10 button cap centrally has a belly projection facing downwards with an axial hole which has a middle segment greater in diameter than an upper segment and a lower segment thereof, wherein said means comprises a U-shaped spring which is holed in said middle segment and said projection of said cap base is pressed into said axial hole of said button cap tightly through said holes of said pull piece and said connection piece to affix  
15 said button cap on said connection piece, wherein said means further comprises an enlarged head provided at an upper end of said post of said button post as said locking head, wherein said enlarged head has a diameter larger than said button post and said button post is capable of piercing in a space where said spring is provided, wherein a latch notch is formed adjacent to a first side of said enlarged head and a smooth curve  
20 edge formed at an opposite second side of said latch notch, wherein when said button is closed that is said button cap is connected with said button post while said enlarged head is engaged with said button cap, one leg of said spring is arranged to mesh in said latch notch to form a locking site while another leg of said spring and said smooth curve edge of said enlarged head to form a smooth curve site, wherein said leg of said spring  
25 is retained securely in said latch notch so that said button is unable be opened from said locking site of said latch notch and said spring while said button is able to be opened from said smooth curve site.

15. The button binder and button connector, as recited in claim 1, wherein  
said button cap comprises a cap base which has a projection extended downwardly at a  
30 center of said cap base, wherein said projection has an enlarged portion at one end thereof and said button cap centrally has a belly projection facing downwards with an axial hole which has a middle segment greater in diameter than an upper segment and a

lower segment thereof, wherein said means comprises a U-shaped spring which is holed in said middle segment and said projection of said cap base is pressed into said axial hole of said button cap, wherein said means further includes two latch teeth formed at a half periphery edge of said locking head of said post of said button head, wherein two  
5 notches are formed under said two latch teeth respectively while other opposite half circle part of said locking head has no latch teeth and is smooth to said notches while a smooth curve edge from said latch tooth transferring to said half circle part, wherein two legs of said spring are engaged in said two notches respectively when said button is closed, wherein said button is able to be opened from a side that has no latch teeth by  
10 said legs of said spring moving along said smooth curve edge, wherein said button is unable to opened at a side having said latch teeth.

16. The button binder and connector, as recited in claim 2, wherein said button cap comprises a cap base which has a projection extended downwardly at a center of said cap base, wherein said projection has an enlarged portion at one end  
15 thereof and said button cap centrally has a belly projection facing downwards with an axial hole which has a middle segment greater in diameter than an upper segment and a lower segment thereof, wherein said means comprises a U-shaped spring which is holed in said middle segment and said projection of said cap base is pressed into said axial hole of said button cap, wherein said means further includes two latch teeth formed at a  
20 half periphery edge of said locking head of said post of said button head, wherein two notches are formed under said two latch teeth respectively while other opposite half circle part of said locking head has no latch teeth and is smooth to said notches while a smooth curve edge from said latch tooth transferring to said half circle part, wherein two legs of said spring are engaged in said two notches respectively when said button is  
25 closed, wherein said button is able to be opened from a side that has no latch teeth by said legs of said spring moving along said smooth curve edge, wherein said button is unable to opened at a side having said latch teeth.

17. The button binder and connector, as recited in claim 1, wherein said  
button cap comprises a cap base which has a projection extended downwardly at a  
30 center of said cap base, wherein said projection has an enlarged portion at one end thereof and said button cap centrally has a belly projection facing downwards with an axial hole which has a middle segment greater in diameter than an upper segment and a

lower segment thereof, wherein said means comprises a U-shaped spring which is holed in said middle segment and said projection of said cap base is pressed into said axial hole of said button cap, wherein said means further comprises an enlarged head provided at an upper end of said post of said button post as said locking head, wherein  
5 said enlarged head has a diameter larger than said button post and said button post is capable of piercing in a space where said spring is provided, wherein one side of said post has a flat surface and a first leg of said spring is a flat leg having a flat area to be engaged with said flat surface of said post together to form a locking site so as to prevent said button from being opened at said locking site while a second leg of said  
10 spring and a smooth curve edge of said enlarged head fit with each other to form a smooth curve site, wherein said leg of said spring is retained securely in said latch notch so that said button is unable be opened from said locking site while said button is able to be opened from said smooth curve site.

18. The button binder and connector, as recited in claim 2, wherein said  
15 button cap comprises a cap base which has a projection extended downwardly at a center of said cap base, wherein said projection has an enlarged portion at one end thereof and said button cap centrally has a belly projection facing downwards with an axial hole which has a middle segment greater in diameter than an upper segment and a lower segment thereof, wherein said means comprises a U-shaped spring which is holed  
20 in said middle segment and said projection of said cap base is pressed into said axial hole of said button cap, wherein said means further comprises an enlarged head provided at an upper end of said post of said button post as said locking head, wherein said enlarged head has a diameter larger than said button post and said button post is capable of piercing in a space where said spring is provided, wherein one side of said  
25 post has a flat surface and a first leg of said spring is a flat leg having a flat area to be engaged with said flat surface of said post together to form a locking site so as to prevent said button from being opened at said locking site while a second leg of said spring and a smooth curve edge of said enlarged head fit with each other to form a smooth curve site, wherein said leg of said spring is retained securely in said latch notch  
30 so that said button is unable be opened from said locking site while said button is able to be opened from said smooth curve site.

19. The button binder and button connection, as recited in claim 2, wherein said cap hole of said bottom cap is a dumb-bell hole which is formed by connecting a first hole and a second hole, wherein said first hole has a diameter at least equal to that of said locking head to enable said locking head to pass through and said second hole  
5 has a diameter smaller than said first hole and at least equal to that of said post, wherein to open said button, position said locking head at said first hole and, to lock said button, position said locking at said second hole, said button cap being connected to button post by connection piece for said button binder.